What Is Claimed Is:

1. A cesium vapor emitter, comprising:

a housing including at least one chamber in fluid communication with at least one outlet;

at least one reservoir containing cesium disposed within the at least one chamber, said reservoir having a filter between the cesium and the outlet;

a heating element that controls the temperature of the reservoir; and

a stopper securing the at least one reservoir within the chamber.

2. The cesium vapor emitter according to claim 1, wherein the filter comprises a porous metal.

3. The cesium vapor emitter according to claim 1, wherein the filter comprises a metal mesh.

4. The cesium vapor emitter according to claim 1, wherein the filter comprises a machined aperture.

5. The cesium vapor emitter according to claim 1, wherein the filter comprises a sintered ceramic composition.

6. The cesium vapor emitter according to claim 5, wherein the sintered ceramic composition comprises cesium mordenite.

7. The cesium vapor emitter according to claim 1, further comprising a sealing member engaging the filter, wherein the sealing member is disposed between the cesium and a plug.

8. The cesium vapor emitter according to claim 10, wherein the sealing member comprises elastomer.

9. The cesium vapor emitter according to claim 10, wherein the sealing member comprises metal.

10. The cesium vapor emitter according to claim 1, further comprising a cracking member within the reservoir.

11. The cesium vapor emitter according to claim 7, wherein the cracking member comprises metal.

12. The cesium vapor emitter according to claim 7, wherein the cracking member comprises ceramic.

13. The cesium vapor emitter according to claim 1, wherein the cesium is mixed with an inert substance to form a cesium slurry.

14. The cesium vapor emitter according to claim 13, wherein the cesium slurry comprises cesium mordenite.

15. The cesium vapor emitter according to claim 13, wherein the cesium slurry comprises glass powder.

16. The cesium vapor emitter according to claim 13, wherein the cesium slurry comprises quartz powder.

17. The cesium vapor emitter according to claim 13, wherein the cesium slurry comprises Al_2O_3.

18. The cesium vapor emitter according to claim 13, wherein the cesium slurry comprises SiO_2.

19. The cesium vapor emitter according to claim 13, wherein the cesium slurry comprises graphite.

20. The cesium vapor emitter according to claim 13, wherein the cesium slurry comprises glass wool.

21. The cesium vapor emitter according to claim 13, wherein the cesium slurry comprises metal wool.

22. The cesium vapor emitter according to claim 1, wherein the reservoir comprises bellows.

23. The cesium vapor emitter according to claim 22, wherein the cesium is disposed within an ampoule.

24. The cesium vapor emitter according to claim 1, further comprising a valve regulating the flow of cesium vapor through the outlet.

25. The cesium vapor emitter according to claim 1, wherein the outlet is designed in a nozzle shape producing a desired injection of cesium vapor.

26. The cesium vapor emitter according to claim 25, wherein the nozzle shape comprises a solid stream nozzle.

27. The cesium vapor emitter according to claim 25, wherein the nozzle shape comprises a hollow cone nozzle.

28. The cesium vapor emitter according to claim 25, wherein the nozzle shape comprises a full cone nozzle.

29. The cesium vapor emitter according to claim 25, wherein the nozzle shape comprises a flat spray nozzle.

30. The cesium vapor emitter according to claim 1, further comprising a cooling element.

31. The cesium vapor emitter according to claim 1, further comprising a delivery tube in fluid communication with the outlet.

32. A method for emitting cesium vapor, the method comprising the steps of:

providing a housing including at least one chamber in fluid communication with at least one outlet;

inserting at least one reservoir containing cesium in the at least one chamber;

sealing the at least one reservoir in the chamber;

controlling the temperature of the reservoir; and

regulating the flow of cesium through the outlet using a filter disposed between the cesium and the outlet.

33. The method according to claim 32, further comprising the step of regulating the flow of cesium through the outlet using a valve.

34. The method according to claim 32, further comprising the step of inhibiting the formation of an oxide layer of cesium before use.

35. The method according to claim 34, wherein the step of inhibiting the formation of an oxide layer of Cesium comprises installing a cracking member in the reservoir.

36. The method according to claim 32, wherein the step of inserting at least one reservoir comprises mixing the cesium with an inert substance to form a cesium slurry.

37. The method according to claim 36, wherein the cesium slurry comprises cesium mordenite.

38. The method according to claim 36, wherein the cesium slurry comprises glass powder.

39. The method according to claim 36, wherein the cesium slurry comprises quartz powder.

40. The method according to claim 36, wherein the cesium slurry comprises Al_2O_3.

41. The method according to claim 36, wherein the cesium slurry comprises SiO_2.

42. The method according to claim 36, wherein the cesium slurry comprises graphite.

43. The method according to claim 36, wherein the cesium slurry comprises glass wool.

44. The method according to claim 36, wherein the cesium slurry comprises metal wool.

45. The method according to claim 32, wherein the step of inserting the at least one reservoir comprises cesium being disposed within an ampoule.

46. The method according to claim 45, further comprising the step of breaking the ampoule.

47. The method according to claim 46, wherein the step of providing the at least one reservoir comprises providing bellows on said at least one reservoir that permit breaking of the ampoule.

48. The method according to claim 32, wherein the step of controlling the temperature of the reservoir comprises providing a heating element.

49. The method according to claim 32, wherein the step of controlling the temperature of the reservoir comprises providing a cooling element.

50. The method according to claim 32, wherein the step of controlling the temperature of the reservoir is within a range of about 0° to 400°C.

51. The method according to claim 32, further comprising the step of forming the outlet in the shape of a nozzle for a desired injection of cesium vapor.

52. The method according to claim 51, wherein the outlet is formed in the shape of a solid stream nozzle.

53. The method according to claim 51, wherein the outlet is formed in the shape of a hollow cone nozzle.

54. The method according to claim 51, wherein the outlet is formed in the shape of a full cone nozzle.

55. The method according to claim 51, wherein the outlet is formed in the shape of a flat spray nozzle.

56. The method according to claim 32, further comprising the steps of:

installing the housing outside of the vacuum chamber; providing a delivery tube in fluid communication with the at least one outlet; and

controlling the temperature of the delivery tube such that the cesium vapor is substantially isothermal while passing from the at least one outlet through said delivery tube.

57. The method according to claim 32, further comprising the step of locating the at least one outlet at a distance from a target such that the cesium vapor emitted toward said target is substantially pure.

58. An apparatus for emitting cesium vapor, comprising:

a cesium vapor emitter located outside a vacuum chamber;

a housing including at least one chamber having a delivery tube in fluid communication with at least one outlet;

at least one reservoir containing cesium disposed within the at least one chamber, said reservoir having a filter between the cesium and the outlet;

a heating element that controls the temperature of the reservoir; and

a stopper securing the at least one reservoir within the chamber.